Amendments to the Claims

1. (currently amended) A method for maximizing residual power along
routes in a wireless network including a plurality of battery operated nodes,
comprising:

    discovering a plurality of routes from a destination node to a source
node via intermediate nodes of the network using dynamic source routing
(DSR);

    measuring a residual power in the battery of each intermediate node;

    determining a power cost associated with each route according to the
residual power of the intermediate nodes; and

    selecting a particular route for transferring data from the source node
to the destination node, the particular route having a least power cost;

    including the particular route in a routing table in a packet, in which
the routing table is an ordered list of intermediate node addresses; and

    transmitting each packet in the network using the DSR, and in which
each packet includes the routing table.

2. (currently amended) The method of claim 1, further comprising:

    determining a delay cost associated with each route; and

    selecting the a particular route having a least delay cost;

    including the least delay cost in each transmitted packet.

3. (original) The method of claim 1, further comprising:

    associating a time of discovery with each route; and

    selecting the particular route having a most recent time of discovery
and

5   including a time stamp indicating the time that the particular route

6 was discovered in the routing table in each transmitted packet.

1 4. (original) The method of claim 1, in which the network is ad-hoc.

1 5. (currently amended) The method of claim 1, further comprising:

2   storing a routing table in each node.

1 6. (original) The method of claim 1, further comprising:

2   quantizing the residual power to a power level to determine the power

3 cost.

1 7. (original) The method of claim 6, further comprising:

2   participating in the route if the power level is a least power level;

3   not participating in the route if the power level is a highest level; and

4   participating in the route if the power level is an intermediate power

5 level, and increasing the power cost according to the power level.

1 8. (original) The method of claim 6, in which an initial power of an nth node

2 is E joules, and the residual power in the nth node at time t is $R(t)$ joules, and

3 the power cost for using n^{th} node as an intermediate node is $P(n)$, and the

4 power level $L(t)$ of the nth is determined by

5   if $R(t) \leq E * \alpha$,   then $L(t) = 3$;

6   else if $E * \alpha < R(t) \leq E * \beta$, then $L(t) = 2$;

7   else if $E * \beta < R(t) \leq E * \gamma$,   then $L(t) = 1$;

8   else $L(t) = 0$.

9   where α, β, and γ are numbers less than 1.0 and monotonically increasing

10 according to $\alpha < \beta < \gamma$.

9. (cancel)

1   10. (currently amended) The method of claim 1, in which the discovering

2   uses ad-hoc on-demand distance vector routing, and including the routing

3   table in each transmitted packet.

1   11. (currently amended) A method for maximizing residual power along

2   routes in a wireless network including a plurality of nodes, each node having

3   an address and a battery, comprising:

4   broadcasting a request packet, the request packet including the address

5   of a source node and the address of a destination address using dynamic

6   source routing (DSR);

7   receiving the request packet in an intermediate node;

8   measuring a residual power in the battery of the intermediate node;

9   determining a power cost associated with each route according to the

10 residual power of the intermediate nodes; and

11   sending a reply packet to the source node, the reply packet including

12 the address of the intermediate node and the power cost;

13   repeating the broadcasting , receiving, measuring, determining and the

14 sending until the request packet reaches the destination node;

15   constructing a route in a routing table in the source node from the

16 reply packets, the route having the associated power cost;

17   selecting a particular route for transferring a data packet from the

18   source node to the destination node, the particular route having a least power

19   cost; and

20   including the particular route in a routing table in a packet, in which

21   the routing table is an ordered list of intermediate node addresses; and

22   transmitting each packet in the network using the DSR, and in which

23   each packet includes the routing table.

1   12. (currently amended) A wireless network including a plurality of battery

2   operated nodes, comprising:

3   means for discovering a plurality of routes from a destination node to

4   a source node via intermediate nodes of the network using dynamic source

5   routing (DSR);

6   means for measuring a residual power in the battery of each

7   intermediate node;

8   means for determining a power cost associated with each route

9   according the residual power of the intermediate nodes; and

10   means for selecting a particular route for transferring data from the

11   source node to the destination node, the particular route having a least power

12   cost, in which the particular route is included in a routing table in a packet,

13   in which the routing table is an ordered list of intermediate node addresses;

14   and each packet in the network using the DSR, and in which each packet

15   includes the routing table.

1   13. (new) The method of claim 1, in which the routing table includes a delay

2   cost and the power cost of the route.

5

1   14. (new). The method of claim 1, further comprising:

2   updating the routing table in each packet when the packet is

3   transmitted.